

Remarks

Claims 1 – 9, 11 – 25, and 27 - 34 are currently active in this case. Claim 22 has been amended; Claims 30 – 34 have been added and Claims 6 and 26 have been canceled by way of the present amendment. Each new/amended Claim is supported by the specification and claims as originally submitted and no new matter has been added.

In the outstanding Official Action Claims 1, 2, 4, 7, and 10-15 were rejected under 35 U.S.C. §103(a) over *Scott* (U.S. Patent No. 5,859,842) in view of *Pyle* (U.S. Patent No. 5,418,452); Claims 3 and 5 were rejected under 35 U.S.C. §103(a) over *Scott* in view of *Pyle* and further in view of *Eidson* (U.S. Patent No. 6,411,824); Claims 8 and 9 were rejected under 35 U.S.C. §103(a) over *Scott* in view of *Pyle* and further in view of *Lam* (U.S. Patent No. 6,701,141); Claims 16, 17, 20, 22, 25, and 27-29 were rejected under 35 U.S.C. §103(a) over *Scott* in view of *McCaslin* (U.S. Patent No. 5,198,992); and Claims 23 and 24 were rejected under 35 U.S.C. §103(a) over *Scott* in view of *McCaslin* and further in view of *Lam*..

Applicants appreciatively acknowledge the Examiner's allowance of Claims 18 and 19.

Applicants appreciatively acknowledge the courtesy of an interview granted by Examiner Ng to Applicants' attorney on Wednesday, September 14, 2005. During the course of the interview the differences between the claimed subject matter and cited references were discussed as elaborated on herein below.

Applicants respectfully traverse the rejection of Claim 1 under 35 U.S.C. 103(a) as being unpatentable over *Scott* in view of *Pyle*. Claim 1 recites:

1. (Previously presented) A communication method, comprising the steps of:

receiving multiple signals;

multiplexing the signals;

transporting the multiplexed signals through a single chain;

demultiplexing the signals; and

using each of the demultiplexed signals in a related application;

wherein said step of multiplexing comprises multiplexing the multiple signals at a sampling rate greater than $n \cdot F_s$, where n is the number of signals, F_s is a Nyquist sampling rate for a single signal.

However, the cited references fail to teach or suggest similar subject matter.

Applicants respectfully traverse the assertion in the outstanding Official Action that cites *Scott* as teaching “a multiplexing (at summer 151) the signals (antenna signals 140, 141)” (See *Scott* at column 4, lines 34-35). In Figure 2, *Scott* shows a summer 151 which sums signals from antennas 130 and 131. Applicants respectfully assert that a summer, however, is not properly construed to be a multiplexor.

More importantly, Applicants respectfully traverse the assertion in the outstanding Office Action which cites *Scott* as teaching “Demultiplexing (at splitter 160) thus signals (antenna signals 140, 141).” As a preliminary matter, Applicants respectfully note that splitter 160 only splits the summed signal 152 into two identical signals 166 and 167 (Please note *Scott*, column 4, lines 51-52 which recites that the signal is split by a splitter into two identical signals.) In fact,

according to Figure 2, the two signals 166 and 167 are also identical to the summed signal 152. However, demultiplexing is not the same operation as a splitter. Further, the demultiplexing step must demultiplex that which was multiplexed previously, and, in this case, the splitter simply divides the signal but no demultiplexing is performed.

Therefore, Applicants respectfully submit that the combined references of *Scott* and *Pyle* fail to teach or suggest subject matter specifically claimed in Claim 1. Accordingly, Applicants respectfully submit that Claim 1 is patentable over the cited references.

Applicants respectfully traverse the rejection of Claim 16 under 35 U.S.C. 103(a) as being unpatentable over *Scott* in view of *McCaslin*. Claim 16 recites:

16. (Currently Amended) A communication receiver, comprising:

a switch comprising,

at least two inputs, each input configured to coupleable to at least two signal carrying devices,

a switching mechanism configured to multiplex signals received at said inputs; and

an output configured to carry the multiplexed signal;

a downconverter comprising an input coupled to the output of said switch and configured to downconvert the multiplexed signal; and

a signal processor comprising an input coupled to receive the downconverted multiplexed signal and an output;

wherein:

said signal processor is configured to provide, at the signal processor output, a data signal substantially corresponding to data contained in a communication signal carried by the signal carrying devices; and

the switch operates at a frequency which is substantially equal to at least twice a Nyquist required sampling rate for a bandwidth of the communication signal.

However, the cited references fail to teach or suggest similar subject matter.

Applicants respectfully traverse the assertion in the outstanding office action that indicates *Scott* teach “a switching mechanism (summer 151) configured to multiplex signals (antenna signals 140, 141) received at said inputs.” The traversal is based mainly upon the fact that a sum of 151 is not what would normally be considered a switching mechanism because a summer only adds two signals together, but does not perform any switch-type operations.

More importantly, Applicants traverse the assertion in the outstanding office action that states that *Scott* teach “a signal process (splitter 160) comprising an input coupled to receive the downconverted multiplex signal (from summer 151) and an output (demultiplex signals 166, 167).” As a preliminary matter again Applicants respectfully note that signals split from splitter 160 are not demultiplexed but are in fact identical signals. Further, Applicants respectfully traverse any assertion that would equate a splitter 160 to a signal processor. No processing is performed because the split signals are identical.

Further yet, Applicants respectfully traverse the assertion that states *"the signal processor (splitter 160) is configured to provide, at the signal processor output, a data signal substantially corresponding to data contained in a communication signals carried by the signal carrying devices."* In fact, the splitter does not provide a data signal substantially corresponding to data contained in a communication signal because the splitter only provides the summed communication signals as output from summer 151 in identically split into signals 166 and 167, which only contain encoded communication signal but is not the data signal or the data contained in the communication signal.

Therefore, Applicants respectfully assert that the cited references fail to teach or suggest subject matter specifically claimed in Claim 1. Accordingly Applicants respectfully submit that Claim 16 is patentable.

Applicants respectfully traverse the rejection of Claim 22 under 35 U.S.C. 103(a) as being unpatentable or *Scott* in view of *McCaslin*. Claim 22 recites:

22. (Amended) A method for receiving a communication signal at a wireless communication device comprising at least two antennas, comprising:

receiving a communication signal using at least two antennas;

sampling the communication signal from each of the at least two antennas to produce a sampled signal using a switch;

down converting the sampled signal to generate a down converted signal;

generating a digitized signal from the down converted signal;

de-multiplexing the digitized signal to produce at least two digital signals each corresponding the communication signal as received by the at least two antennas; and

preparing an output signal based on the at least two digital signals

wherein the step of sampling comprises sampling at a frequency substantially equal to at least twice a Nyquist required sampling rate for a bandwidth of the communication signal.

However, the cited references fail to teach or suggest similar subject matter.

Applicants respectfully traverse the assertion in the outstanding Office Action which indicates that *Scott* teach “*sampling the communications signal from each of the at least two antennas to produce a sampled signal.*” The sampling is noted as being related to an analog/digital (A/D) sampling that may alternatively occur before transmission over backlog cable 152 (*Scott*, Col. 13, lines 42-50). However, Claim 22 specifically recites that sampling is performed using a switch, and analog/digital sampling is not a switch but a sampling/conversion method.

Therefore, Applicants respectfully submit the Claim 22 recites subject matter that is neither taught or suggested by the cited references. According, Applicants respectfully submit that Claim 22 is patentable.

Based on the patentability of independent Claims 1, 16, 22, and the allowance of Claims 18 and 19, Applicants further respectfully submit that dependent Claims 2-5, 7-15, 17, 20, 24, 25, and 27-34 are also patentable.

Consequently, no further issues are believed to be outstanding, and it is respectfully submitted that this case is in condition for allowance. An early and favorable action is respectfully requested.

Respectfully submitted,

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